

U.S. DEPARTMENT OF COMMERCE PATENT & TRADEMARK OFFICE

B/O Form PTO-1300		Transmittal Letter to the United States Designated/Elected Office (DO/EO/US) Concerning a Filing Under 35 USC 371		Attorney's Docket Number CAPP3001/JEK
International Application Number PCT/BE00/00138		International Filing Date 22 November 2000		U.S. Application Number (if known) n97/869299
Title of Invention COVERING, COVERING ELEMENTS AND INSTALLING AND DISASSEMBLING METHOD		Priority Date Claimed 23 November 1999		
Applicant(s) for DO/EO/US Mark Gaston Maurits CAPPELLE				

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items under 35 USC 371:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 USC 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 USC 371.
3. ☒ This express request to begin national examination procedures (35 USC 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 USC 371(b) and PCT Articles 22 and 39(1).
4. ☐ A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.
5. ☒ A copy of the International Application as filed 35 USC 371(c)(2).
 - a. ☐ is transmitted herewith (required only if not transmitted by the International Bureau).
 - b. ☒ has been transmitted by the International Bureau.
 - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☐ A translation of the International Application into English (35 USC 371(c)(2)).
7. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 USC 371(c)(3))
 - a. ☐ are transmitted herewith (required only if not transmitted by the International Bureau).
 - b. ☐ have been transmitted by the International Bureau.
 - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
 - d. ☒ have not been made and will not be made.
8. ☐ A translation of the amendments to the claims under PCT Article 19 (35 USC 371(c)(3)).
9. ☒ An oath or declaration of the inventor(s) (35 USC 371(c)(4)). (☐ Executed ☒ Unexecuted)
10. ☐ A translation of the annexes to the International Preliminary Examination Report under PCT Article 34 (35 USC 371(c)(5)).

Items 11 to 16 below concern other document(s) or information included:

11. ☐ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. ☒ A **FIRST** preliminary amendment.
☐ A **SECOND** or **SUBSEQUENT** preliminary amendment.
14. ☐ A substitute specification.
15. ☐ A change of power of attorney and/or address letter.
16. ☐ Other items or information:

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

International Patent Application
No. PCT/BE00/00138

PCT/US/EO

International Filing Date: 22 November 2000

Applicant: CAPPELLE

For: Covering, Covering Elements and Installing and Disassembling Method

PRELIMINARY AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

Sir:

This application is the U.S. National phase of the above identified international patent application. No amendments to the claims of the international application were made pursuant to Article 19.


Before examination on the merits, and before calculation of the filing fee, please amend claims 1-46 and 49-51 so they correspond to the appended APPENDIX OF AMENDED CLAIMS.

An APPENDIX OF MARKED-UP AMENDED CLAIMS is also provided herewith to show the amendments made to the original claims.

Please cancel claims 47 and 48 without prejudice or disclaimer.

Examination of the application as amended is respectfully requested.

Respectfully submitted,
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APPENDIX OF AMENDED CLAIMS

1. (Amended) Covering for a surface, comprising a number of successive panels (2) on the one hand, and of fixing means (3) therefor on the other hand, said fixing means comprising holders (4) including fixing parts (10-11-12-13), said fixing parts arranged to engage and retain the panels (2) in a disconnectable manner over a part of the thickness of the panels (2).

2. (Amended) Covering according to claim 1, wherein the panels (2) are mounted in rows, and in that the panels (2), after they have been mounted, can be separated from their respective holders and removed without interference with the panels (2) which are located in the adjacent rows on either side.

3. (Amended) Covering according to claim 1, wherein the holders (4) are each provided with at least two fixing parts (10-11-12-13) made in one piece with the holders, and which are arranged so as to co-operate with two edges or portions of one and the same panel (2) respectively, for example with the opposite edges (6-7) thereof, or with portions situated in the vicinity thereof.

4. (Amended) Covering according to claim 1, wherein the holders (4) comprise separate elements which can be fixed on a base, whereby each holder (4) cooperates with a respective single panel (2).

5. (Amended) Covering according to claim 1, wherein the holders (4) comprise elements which can be fixed on a base, and wherein each holder (4) includes fixing devices (3) which are arranged to co-operate with several panels (2) situated next to one another.

6. (Amended) Covering according to claim 1, wherein the holders (4) are each provided with two fixing parts (12-10) which are arranged to co-operate with the edges or with portions situated near the edges respectively, of two adjacent panels (2).

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7. (Amended) Covering according to claim 1, including a spacer and wherein said holders (4) co-operate with said spacer, for example a profile (55) upon or onto which the panels are mounted.

8. (Amended) Covering according to claim 1, wherein each holder (4) includes a stopping part (23) with which said holder (4) can be positioned against a part of the covering (1) which has already been installed, either against a holder (4) thereof, or against a panel (2) thereof.

9. (Amended) Covering according to claim 8, wherein the stopping part (23) is formed of a protruding lip which functions as a spacer.

10. (Amended) Covering according to claim 8, wherein the holder (4) has a design, on the side where the stopping part (23) is situated on the one hand, and on the opposite side thereof on the other hand, such that when several of said holders (4) are mounted one after the other, the stopping part (23) of the one holder (4) can be freely brought up against the edge (6) of the panel (2) which is being held by the other holder (4).

11. (Amended) Covering according to claim 10, wherein every holder (4) concerned is provided with at least one stopping part (23) on one edge, and is provided, opposite every stopping part (23), with a portion which leaves the edge (6) of a clamped-in panel (2) free.

12. (Amended) Covering according to claim 1, wherein the holders (4) include clamping devices (31) which are arranged so as to enable the holders to be snapped-in on an underlying structure.

13. (Amended) Covering according to claim 1, wherein each holder (4) includes fixing parts (10-11-12-13) which co-operate with the panels (2) and, at least on one side, every fixing part (10-11 or 12-13) has features which facilitate a smooth,

lateral, flexible bending, so that in a direction perpendicular to the surface of the covering (1) a firm interlocking is enabled.

14. (Amended) Covering according to claim 13, wherein said fixing parts (10-11 or 12-13) comprise elastically bendable lips which are shaped by bending each lip backward out of the plane of the holder (4), and then forward again.

15. (Amended) Covering according to claim 14, wherein each of the holders (4) is equipped with a combination of one or several fixing parts (12-13) on the one hand which are formed of elastically bendable lips which are shaped by bending each lip backward out of the plane of the holder (4) and then forward again to further form a hook-shaped part (17), and of one or more fixing parts (10-11) on the other hand which are equipped with a relatively rigid hook-shaped part (15), and wherein at least one of the fixing parts (10-11 or 12-13) also has an inclined guiding part (16).

16. (Amended) Covering according to claim 14 wherein the elastically bendable lips which are bent backward out of the plane of the holder (4) and then forward again, comprise two parts (28-29) respectively, and in that the second part (29) is made such that, in a state of rest when no panel (2) has been provided in it yet, is pressed against the other part (28-51) with a certain force (F), such that the position of the lower end of the second part (29), and thus of the hook-shaped part (17) formed there, is always fixed.

17. (Amended) Covering according to claim 1, wherein the panels (2) overlap each other at their adjacent edges (6-7).

18. (Amended) Covering according to claim 17, wherein the panels (2) include overlapping parts (25-26) on the opposite edges (6-7), whereby, when mounted, a first part (26) of one panel (2) is located behind a second part (25) of an adjacent panel (2), and wherein a recess or free portion (27) is provided on the second part (25), such that the one panel (2) can always be freely rotated outward along the first part (26).

laterally pressed against a base, said supporting surface (47) comprising an L-shaped seating together with the bottom side of the holder (4).

26. (Amended) Covering according to claim 1, wherein the panels (2) and/or the fixing parts are provided with bevelled and/or rounded-off edges (49-50) which facilitate the turning in and out of the panels (2).

27. (Amended) Covering according to claim 1, wherein the holders (4) each comprise at least two pairs of fixing parts (10-11-12-13) per panel (2) to be held, said pairs situated on either side of a stopping part (23) located in the middle of the holder.

28. (Amended) Covering according to claim 1, wherein each holder (4) comprises only one pair of fixing parts per panel (2) to be held.

29. (Amended) Covering according to claim 1, wherein the panels (2) mesh on their edges (6-7) by means of a tongue and groove joint, either directly or by means of an inserted element such as a strip (37).

30. (Amended) Covering according to claim 29, wherein the fixing means (3), as well as the tongue and groove joint, enable the panels (2) to be rotated along the side of the tongue (35) during assembly and disassembly of the panels and holders.

31. (Amended) Covering according to claim 30, including fixing parts (10-11-12-13) and wherein said fixing parts are located along the side of the tongue (35), said fixing parts corresponding to the fixing parts defined in claim 13.

32. (Amended) Covering according to claim 29, wherein the fixing means (3), as well as the above-mentioned tongue and groove joint, enable the panels (2) to be rotated along the side of the groove (36) during the assembly and disassembly of the panels and holders.

33. (Amended) Covering according to claim 32, including fixing parts (10-11-12-13), and wherein the fixing parts are located along the side of the groove (36) said fixing parts corresponding to the fixing parts defined in claim 13.

34. (Amended) Covering according to claim 1, wherein the panels (2) cooperate indirectly at their edges (6-7) by means of inserted elements, for example strips (37).

35. (Amended) Covering according to claim 34, wherein said elements are connected to one panel (2) such that they always occupy a specific lateral position.

36. (Amended) Covering according to claim 1, wherein the panels (2) include coupling parts in the shape of a tongue (35) and a groove (36), and in that at least one of these coupling parts is located outside a respective fixing part (10-11, 12-13) when mounted.

37. (Amended) Covering according to claim 1, wherein the panels (2) are provided with parts fitting one after the other, and in that the part which is situated on one longitudinal edge of the panels (2), extends up to the vicinity of the fixing part (12) of a following panel (2) to be mounted.

38. (Amended) Covering according to claim 37, wherein said part extends to underneath said fixing part (12) and/or up to a distance (D4) past this fixing part (12).

39. (Amended) Covering according to claim 1, wherein the panels (2) consist of laths.

40. (Amended) Covering according to claim 1, wherein the panels (2) include connecting devices on their crosscut sides.

41. (Amended) Covering according to claim 40, wherein the connecting devices provide for an interlocking, both in a direction which is at right angles to the

surface of the covering (1) and in a direction which is parallel to the surface of the covering (1).

42. (Amended) Covering according to claim 1, wherein the panels (2) have a massive core.

43. Covering according to claim 42, wherein the panels are made from a material selected from the group consisting of wood and a product having a wood base, including MDF or HDF.

44. (Amended) Covering according to claim 1, wherein the holders (4) include fixing parts (10-11 or 12-13) on one side which are formed of a rigid, hook-shaped part (15 or 17).

45. (Amended) Covering according to claim 1, wherein two or more panels (2) are connected at their crosscut ends by means of an accessory (61), comprising a body (62) and bent edges (63-64) formed on said body (62) which co-operate with the edges of the panels (2).

46. (Amended) Covering according to claim 1, said covering comprising a floor covering, said holders (4) comprising strips, and said fixing means (3) are formed of fixing parts (10-12) protruding from the surface of said strips.

49. (Amended) Method for installing a covering formed of panels (2) which are provided with a tongue (35) and a groove (36) respectively on at least two opposite edges (5-6) which function as a unit when assembled, comprising mounting holders (4) with fixing parts (10-11-12-13) which can work in conjunction with said panels (2), and then hooking each panel in a respective holder (4) with one panel edge and then rotating the panel into the plane of the covering (1) so that not only are the panels (2) fixed between the fixing parts of the holders (4), but also said tongue (35) and groove (36) are coupled together.

50. (Amended) Method according to claim 49, including the step of shifting the panels (2) with their edge which is provided with the groove (36) over the tongue (35) of a previously installed panel (2), or vice versa, said interlocking part of the holder (4) being laterally bent, so that a hooking-in is achieved on the opposite interlocking part.

51. (Amended) Method for disassembling a covering installed according to claim 50, comprising reversing the steps recited in claim 50.

APPENDIX OF MARKED-UP AMENDED CLAIMS

1. Covering[, in particular a floor, ceiling or wall covering, characterised in that it at least consists of] for a surface, comprising a number of successive panels (2) on the one hand, and of fixing means (3) therefor on the other hand, [which] said fixing means [comprise] comprising holders (4) [which, by means of] including fixing parts (10-11-12-13), said fixing parts arranged to engage and retain the panels (2) in a disconnectable manner over a part of the thickness of the panels (2).

2. Covering according to claim 1, [characterised in that] wherein the panels (2) are mounted in rows, and in that [these] the panels (2), after they have been mounted, can be separated from their respective holders and removed[, at least irrespective of] without interference with the panels (2) which are [situated] located in the adjacent rows on either side.

3. Covering according to [any of the preceding claims, characterised in that] claim 1, wherein the holders (4) are each provided with at least two fixing parts (10-11-12-13) made in one piece with [them] the holders, and which [can] are arranged so as to co-operate with two edges or portions of one and the same panel (2) respectively, [in particular] for example with the opposite edges (6-7) thereof, or with portions situated in the vicinity thereof.

4. Covering according to [any of the preceding claims, characterised in that] claim 1, wherein the holders (4) [consist of] comprise separate elements which can be fixed on a base, whereby each holder (4) [can mainly] cooperates with [one] a respective single panel (2).

5. Covering according to [claim 1, 2 or 3, characterised in that] claim 1, wherein the holders (4) [consist of] comprise elements which can be fixed on a base, [whereby] and wherein each holder (4) [contains] includes fixing [means] devices (3) which [can] are arranged to co-operate with several panels (2) situated next to one another.

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6. Covering according to [claim 1 or 2, characterised in that] claim 1, wherein the holders (4) are each provided with two fixing parts (12-10) which [can] are arranged to co-operate with the edges or with portions situated near the edges respectively, of two adjacent panels (2).

7. Covering according to [any of the preceding claims, characterised in that the above-mentioned] claim 1, including a spacer and wherein said holders (4) co-operate with [a] said spacer, [in particular] for example a profile (55) upon or onto which [they] the panels are mounted.

8. Covering according to [any of claims 1 to 6, characterised in that] claim 1, wherein each holder (4) [concerned is provided with] includes a stopping part (23) with which said holder (4) can be positioned against a part of the covering (1) which has already been installed, either against a holder (4) thereof, or against a panel (2) thereof.

9. Covering according to claim 8, [characterised in that] wherein the stopping part (23) is formed of a protruding lip which functions as a spacer.

10. Covering according to [claim 8 or 9, characterised in that] claim 8, wherein the holder (4) has a design, on the side where the stopping part (23) is situated on the one hand, and on the opposite side thereof on the other hand, such that when several of said holders (4) are mounted one after the other, the stopping part (23) of the one holder (4) can be freely brought up against the edge (6) of the panel (2) which is being held by the other holder (4).

11. Covering according to claim 10, [characterised in that] wherein every holder (4) concerned is provided with at least one stopping part (23) on one edge, and is provided, opposite every stopping part (23), with a portion which leaves the edge (6) of a clamped-in panel (2) free, [in particular in the shape of a recess (24)].

12. Covering according to [any of the preceding claims, characterised in that] claim 1, wherein the holders (4) [are provided with] include clamping [means] devices (31) [with which they can] which are arranged so as to enable the holders to be snapped-in on an underlying structure.

13. Covering according to [any of the preceding claims, characterised in that the] claim 1, wherein each holder (4) [is provided with] includes fixing parts (10-11-12-13) which co-operate with the panels (2) and [in that], at least on one side, every fixing part (10-11 or 12-13) has features which [allow for] facilitate a smooth, lateral, flexible bending, [whereas] so that in a direction perpendicular to the surface of the covering (1) [is offered] a firm interlocking is enabled.

14. Covering according to claim 13, [characterised in that the above - mentioned provisions are formed of] wherein said fixing parts (10-11 or 12-13) [which consist of] comprise elastically bendable lips which are [bent] shaped by bending each lip backward out of the plane of the holder (4), and then forward again.

15. Covering according to claim 14, [characterised in that] wherein each of the holders (4) [are] is equipped with a combination of one or several fixing parts (12-13) on the one hand which are formed of elastically bendable lips which are [bent] shaped by bending each lip backward out of the plane of the holder (4) and then forward again to further form a hook-shaped part (17), and of one or more fixing parts (10-11) on the other hand which are equipped with a [rather] relatively rigid hook-shaped part (15), [whereby] and wherein at least one of the fixing parts (10-11 or 12-13) also has an inclined guiding part (16).

16. Covering according to claim 14 [or 15, characterised in that] wherein the elastically bendable lips which are bent backward out of the plane of the holder (4) [or such.] and then forward again, [to this end consist of] comprise two parts (28-29) respectively, and in that the second part (29) is made such that, in a state of rest[, i.e.] when no panel (2) has been provided in it yet, is pressed against the other part (28-51) with a certain force (F), such that the position of the lower end of the

second part (29), and thus of the hook-shaped part (17) [provided] formed there, is always [determined] fixed.

17. Covering according to [any of the preceding claims, characterised in that] claim 1, wherein the panels (2) overlap [on the edges] each other at their adjacent edges (6-7).

18. Covering according to claim 17, [characterised in that] wherein the panels (2) [are provided with] include overlapping parts (25-26) on the opposite edges (6-7), whereby, when mounted, a first part (26) of one panel (2) [takes place] is located behind a second part (25) of an adjacent panel (2), and [whereby] wherein a recess or free portion (27) is provided on the second part (25), such that the [accompanying] one panel (2) can always be freely rotated outward along the first part (26).

19. Covering according to claim 17, [characterised in that] wherein the panels (2)[, or possibly auxiliary elements working in conjunction with them, such as strips (37) provided in between them, mesh as such] may be meshed together at their adjacent edges, but nevertheless [can] may still be laterally shifted when mounted, against the spring force of one or several fixing parts (10-11-12-13) provided on [the] each respective holder (4), [whereby] and wherein the meshing is such that a single panel (2) can be removed from between the adjacent panels (2) by shifting [it as mentioned above] the panel and by subsequently rotating [it] the panel.

20. Covering according to claim 19, [characterised in that every] wherein each respective fixing part (10-11) [concerned is provided with] includes a guiding part (16) [which makes sure] arranged so that the panels (2), when being pressed in, are shifted laterally to be subsequently shifted back when mounted, whereby said guiding part (16) ensures that the respective meshing parts [concerned] first pass one another to subsequently mesh one after the other as a result of the shifting back.

22. Covering according to claim 21, [characterised in that the above-mentioned] wherein said gripping means (41) [consist of] comprises points of support (44-45) which are [situated] located on either side of a fixing point (42) and which are made such that the holder (4)[, in particular its body (9),] is slightly bent when being [mounted] secured, so that the holder (4) is tightened against the base on said points of support (44-45) when secured on the base.

23. Covering according to [any of the preceding claims, characterised in that] claim 1, wherein the holders (4) [are] each [equipped with] include only one fastener fixing point (42)[, in particular one opening (14) to apply a nail (43), a screw or such].

24. Covering according to [any of the preceding claims, characterised in that] claim 1, wherein the holders (4) [are equipped with] include positioning means (46) [which simplify a positioning in relation to the base].

25. Covering according to claim 24, [characterised in that] wherein the positioning means (46) [consist of] comprises a supporting surface (47), [with which] enabling the holder (4) [can] to be laterally pressed against a [lath (5) or such of the] base, [which] said supporting surface (47) [preferably forms] comprising an L-shaped seating together with the bottom side of the holder (4).

26. Covering according to [any of the preceding claims, characterised in that] claim 1, wherein the panels (2) and/or the fixing parts are provided with bevelled and/or rounded-off edges (49-50) which [simplify] facilitate the turning in and out of [such a panel] the panels (2).

27. Covering according to [any of the preceding claims, characterised in that] claim 1, wherein the holders (4) each comprise at least two pairs of fixing parts (10-11-12-13) per panel (2) to be held, [whereby these] said pairs [are] situated on either side of a stopping part (23) [situated] located in the middle of the holder.

28. Covering according to [any of claims 1 to 26, characterised in that every] claim 1, wherein each holder (4) [concerned] comprises only one pair of fixing parts per panel (2) to be held.

29. Covering according to [any of the preceding claims, characterised in that] claim 1, wherein the panels (2) mesh on their edges (6-7) by means of a tongue and groove joint, either directly or by means of an inserted element such as a strip (37).

30. Covering according to claim 29, [characterised in that] wherein the fixing means (3), as well as the [above-mentioned] tongue and groove joint, enable the panels (2) to be rotated along the side of the tongue (35) during [the] assembly and disassembly of the panels and holders.

31. Covering according to claim 30, [characterised in that it is equipped with provisions as defined in the preceding claims 13 or 14,] including fixing parts (10-11-12-13) and [in that the above-mentioned provisions] wherein said fixing parts are [situated] located along the side of the tongue (35), said fixing parts corresponding to the fixing parts defined in claim 13.

32. Covering according to claim 29, [characterised in that] wherein the fixing means (3), as well as the above-mentioned tongue and groove joint, enable the panels (2) to be rotated along the side of the groove (36) during the assembly and disassembly of the panels and holders.

33. Covering according to claim 32,[characterised in that it is equipped with provisions as defined in the preceding claims 13 or 14] including fixing parts (10-11-12-13), and [in that the above-mentioned provisions] wherein the fixing parts are [situated] located along the side of the groove (36) said fixing parts corresponding to the fixing parts defined in claim 13.

34. Covering according to [any of the preceding claims, characterised in that] claim 1, wherein the panels (2) co-operate indirectly [on] at their edges (6-7) by means of inserted elements, [such as] for example strips (37)[or such].

35. Covering according to claim 34, [characterised in that the above-mentioned] wherein said elements[, in particular the above-mentioned strips (37)] are connected to one panel (2) such that they always occupy a specific lateral position.

36. Covering according to [any of the preceding claims, characterised in that] claim 1, wherein the panels (2) [are provided with] include coupling parts[, in particular] in the shape of a tongue (35) and a groove (36), and in that at least one of these coupling parts is [situated] located outside [the accompanying fixing parts] a respective fixing part (10-11, 12-13) when mounted.

37. Covering according to [any of the preceding claims., characterised in that] claim 1, wherein the panels (2) are provided with parts fitting one after the other, [in particular coupling parts, preferably in the shape of a tongue (35) and a groove (36).] and in that the part which is situated on one longitudinal edge of [these] the panels (2), extends up to the vicinity of the fixing part (12) of a following panel (2) to be mounted.

38. Covering according to claim 37,[characterised in that the above-mentioned] wherein said part extends to underneath [the above-mentioned] said fixing part (12) and/or up to a distance (D4) past this fixing part (12).

39. Covering according to [any of the preceding claims, characterised in that] claim 1, wherein the panels (2) consist of laths.

40. Covering according to [any of the preceding claims, characterised in that] claim 1, wherein the panels (2) [are provided with] include connecting [means] devices on their crosscut sides[, such as for example a tongue (39) and a groove (40) respectively].

41. Covering according to claim 40, [characterised in that] wherein the connecting [means] devices provide for an interlocking, both in a direction which is at right angles to the surface of the covering (1) and in a direction which is parallel to the surface of the covering (1).

42. Covering according to [any of the preceding claims, characterised in that] claim 1, wherein the panels (2) have a massive core.

43. Covering according to claim 42, [characterised in that] wherein the panels [consist of] are made from a material selected from the group consisting of wood [or] and a product [on the basis of wood] having a wood base, [in particular] including MDF[,] or HDF [or such].

44. Covering according to [any of the preceding claims, characterised in that] claim 1, wherein the holders (4) [are provided with] include fixing parts (10-11 or 12-13) on one side which are formed of a rigid, hook-shaped part (15 or 17).

45. Covering according to [any of the preceding claims, characterised in that] claim 1, wherein two or more panels (2) are connected at their crosscut ends by means of an accessory (61), [consisting of] comprising a body (62) and bent edges (63-64) formed on said body (62) which co-operate with the edges of the panels (2).

46. Covering according to [any of the preceding claims, characterised in that it is realised as] claim 1, said covering comprising a floor covering, [whereby the] said holders (4) [consist of] comprising strips, [whereby the] and said fixing means (3) are formed of fixing parts (10-12) protruding from the surface of [these] said strips.

49. Method for installing a covering [according to any of claims 1 to 46, characterised in that use is made of] formed of panels (2) which are provided with a tongue (35) and a groove (36) respectively on at least two opposite edges (5-6) which [can work in conjunction] function as a unit when assembled, [whereby the method mainly consists in that holders (4) are first mounted] comprising mounting holders (4) with fixing parts (10-11-12-13) which can work in conjunction with [the above-mentioned] said panels (2), [in particular holders (4) as described in any of claims 1 to 46, and in that the panels (2) are] and then [provided in the holders] hooking each panel in a respective holder (4) [by first hooking them in] with one panel edge and [by] then rotating [them] the panel into the plane of the covering (1) [to be realised, whereby] so that not only are the panels (2) [are] fixed between the fixing parts of the [above-mentioned] holders (4), but also said [the abovementioned] tongue (35) and groove (36) are coupled together.

50. Method according to claim 49, [characterised in that] including the step of shifting the panels (2) [are shifted] with their edge which is provided with the groove (36) over the tongue (35) of [the preceding] a previously installed panel (2), or vice versa, [whereas the accompanying] said interlocking part of the holder (4) [is] being laterally bent, [such] so that a hooking-in is [realised] achieved on the opposite interlocking part.

51. Method for disassembling a covering installed according to [any of claims 1 to 46, characterised in that one proceeds in the opposite sense of claim 49 or 50] claim 50, comprising reversing the steps recited in claim 50.

PTO/PCT Rec'd 19 JUL 2001

COVERING, COVERING ELEMENTS AND INSTALLING AND DISASSEMBLING METHOD

The invention concerns a covering, in particular a floor, ceiling or wall covering, as well as elements to form such a covering.

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The invention aims a covering which can be very easily applied and which preferably can also easily be disassembled.

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To this aim, the invention concerns a covering, in particular a floor, ceiling or wall covering, characterised in that it at least consists of a number of successive panels on the one hand, and of fixing means therefor on the other hand, which fixing means comprise holders which retain the panels in a disconnectable manner by means of fixing parts, over a part of the thickness of the panels. The term 'to hold' can hereby imply, depending on the aimed embodiment, to fix, to surround, to interlock, to enclose or to clamp.

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The covering preferably consists of panels, in particular laths, which are mounted in rows, whereby these panels can be removed, at least irrespective of the panels which are situated in the adjacent rows on either side. Thus is obtained that each row of panels can be freely removed, without being hindered by the panels situated next to it, so that a random part of the covering can be dismantled at any time, without damaging the rest of the covering. This part can be situated in the middle of the covering, and it

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is not necessary to disassemble the covering starting from the edge.

Use is preferably made of holders which are each provided with at least two fixing parts made in one piece with them, which can co-operate with two edges or portions of the panel respectively. These are preferably the opposite edges of one and the same panel, or portions situated near the edges. The use of such holders offers the advantage that the above-mentioned fixing parts per holder are each time situated at the same distance in relation to one another, as a result of which the co-operation with the edges or parts of the panels concerned is always guaranteed.

According to the invention, the holders preferably consist of separate elements, whereby each holder can mainly co-operate with a single panel or with a certain number of panels. As use is made of separate holders, they are easy to manipulate, and to manufacture as well, especially if they are designed to co-operate with only one panel respectively.

According to the most preferred embodiment, these separate holders are provided with a part forming a stop with which they can be positioned against an already installed part of the covering. Thus is obtained that the holders to be installed are easy to line up, simply by placing them with the stopping part against the edge of the already installed part of the covering.

The design of the holder is preferably such, on the side where the spacer is situated on the one hand, and on the opposite side thereof on the other hand, that when several such holders are mounted one after the other, the spacer of

the one holder can be freely brought up to the edge of the panel which is being held by the other holder. Thus is obtained that the mutual positioning, even when the holders are put in line one after the other, is not determined by the contact between the holders themselves, but each time by the contact between said holder and the edge of the panel of the preceding row. Thus, the risk of certain deviations being cumulated is minimised.

10 The above-mentioned fixing parts preferably consist of hook-shaped elements co-operating with the edges of the panel, in particular clamping elements, one or several of which can be laterally moved or bent in a flexible manner, such that the panels can be snapped in the holders.

15 According to a special embodiment, one or more of these fixing parts have features which allow for a smooth, lateral, flexible bending, whereas a firm interlocking is provided for in a direction which is perpendicular to the surface of the covering. This offers the advantage that the panels can be put in the holders with little force, can be detached from them respectively on the one hand, but that, according to a direction which is perpendicular to the surface of the covering, a large force can be taken up on the other hand, so that for example in the case of a ceiling covering, accessories such as lighting fixtures and the like can be hung on the covering without any problem.

According to a practical embodiment, the above-mentioned features are formed in that the fixing parts consist of elastically bendable lips which are bent backward out of the plane of the holder, and then forward again to further form a hook-shaped part.

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According to the most preferred embodiment, the holders are preferably equipped with a combination of one or more fixing parts on the one hand which are formed of elastically bendable lips which are bent backward out of the plane of the holder and then forward again to form a hook-shaped part, and of one or several fixing parts on the other hand which are equipped with a rather rigid hook-shaped part, whereby at least one of the fixing parts also has an inclined guiding part, such that a panel can be easily mounted by hooking it on one edge behind the fixing part concerned, and by subsequently forcing it over the guiding part in the second fixing part.

The panels preferably overlap near their edges, such that a closed covering is obtained. In particular, the panels preferably mesh near their edges, for example by means of a tongue and groove joint. This offers the advantage that the panels are coupled to one another over their full length, and cannot sag, bend respectively in relation to one another in certain places, and in particular in between the holders.

According to another preferred characteristic of the invention, the covering is characterised in that the panels, or possibly auxiliary elements working in conjunction with them, can mesh as such, but nevertheless can still be shifted laterally when mounted, against the spring force of the clamping parts, whereby the meshing is such that it is always possible to remove a single panel from between the adjacent panels by shifting it as mentioned above and by subsequently turning it down.

To this end, the holders are preferably equipped with fixing parts defining a seating for the panels which is positioned such that there is a lateral play between the

- 5 -

panels of the successive rows, which play allows for the above-mentioned lateral shifting.

5 The above-mentioned holders may possibly be equipped with means which ensure a tight grip when the holders are being applied on a base, even when the holders are only fixed to the base in single point, for example by means of one nail, screw or staple. Thus is avoided that the holders can hinge around this single point.

10 According to the invention, the holders can also be provided with positioning means which simplify a quick positioning in relation to the base. According to a practical embodiment, these positioning means will consist of supporting means, such as a supporting surface, with which said holder can be forced laterally against the lath or such against which it is to be applied. Together with the bottom side of the holder, such a supporting surface then forms an L-shaped seating which allows for a smooth positioning. Moreover, this supporting surface prevents the holder from turning in case it is only fixed in a single point.

25 The invention is particularly meant for a covering whereby the panels consist of laths, but naturally it can also be applied in case of larger panels, for example in the shape of rectangular plates.

30 Further, the invention is also meant in the first place for panels which are hardly or not elastically deformable as such on their edges, especially for panels with a full core, in particular for panels which are composed of a composite material on the basis of wood, such as MDF or HDF.

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Further, the invention also concerns a method for installing, disassembling such a covering respectively. The characteristics of this method, as well as other characteristics of the covering, will become clear from the following detailed description, as well as from the accompanying claims.

In order to better explain the characteristics of the invention, hereafter some preferred embodiments are described hereafter as an example only without being limitative in any way, with reference to the accompanying drawings, in which:

figure 1 represents a cross-section of a part of a covering, in particular a ceiling covering, according to the invention;

figure 2 is an exploded view of the covering from figure 1;

figure 3 represents the covering from figure 1 when being mounted;

figure 4 represents a variant of a covering according to the invention;

figure 5 represents a holder from the covering of figure 4 in perspective;

figure 6 represents a view according to arrow F6 in figure 4 to a smaller scale;

figure 7 shows a view similar to that of figure 4, but for a variant;

figure 8 shows another holder according to the invention;

figure 9 shows another variant of the invention;

figure 10 shows a cross-section according to line X-X in figure 9, when assembled;

figures 11 and 12 show two more variants of the invention;

figures 13 to 15 show another variant for three different positions;

figures 16, 17 and 18 represent a variant of a holder according to the invention seen from aside, from above and in perspective respectively;

figure 19 represents the holder from figures 16 to 18 when assembled;

figure 20 represents a view according to arrow F20 in figure 19;

figure 21 represents a top view of another variant of the holder in figure 17;

figures 22 and 23 represent some more details regarding the covering according to the invention;

figures 24 to 26 represent another variant of the invention, such for different conditions;

figures 27 to 29 represent another variant of a holder according to the invention;

figure 30 represents another covering according to the invention;

figure 31 represents for the covering in figure 30 how a panel can be removed from the covering;

figures 32 to 34 represent some more variants of holders;

figure 35 represents how the crosscut far ends of the panels can be interlocked;

figure 36 represents an auxiliary element that can be used for the covering according to the invention;

figure 37 schematically represents how the auxiliary element of figure 36 can be of use;

figure 38 represents a covering according to the invention, realised as a floor covering;

figure 39 represents a holder from the covering of figure 38;

figures 40 to 44 represent some more variants of the invention.

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As represented in figures 1 to 3, the invention concerns a covering 1, in this case a ceiling covering. This covering consists of panels 2 on the one hand, and of fixing means 3 in the shape of holders 4 on the other hand which retain the panels 2 and which are fixed as such against the base, in this case a grid of laths 5.

In the given example, the panels 2 consist of laths which are provided with profiled edges 6 and 7. These laths preferably have a full core and are made of wood or a product on the basis of wood, in particular MDF, HDF or such. The profiled edges 6 and 7 are formed on the laths by means of milling or such. Naturally, these laths will be provided, at least on their visible side, in this case the bottom side 8, with a decorative surface which can be obtained in any way whatsoever.

In the given example, the holders 4 consist of separate elements which can be fixed against the laths 5.

Every holder 4 can co-operate with exactly one panel 2 and consists of a body 9 onto which are provided fixing parts 10-11 and 12-13 which can co-operate with the edges 6-7 of the panel 2 respectively. The panels 2 are hereby surrounded over a part of their thickness by these fixing parts.

The body 9 preferably consists of a plate-shaped part which is provided with openings 14 which make it possible to fix the holder 4 by means of screws, nails or such on the base.

The fixing parts 10-11 and 12-13 together form a fastening system in which the panels 2 can be snapped.

In the example of figures 1 to 3, the fixing parts 10 to 13 to this end consist of hook-shaped lips, whereby in this case the fixing parts 10 and 11 are made such that they are suitable to be laterally bent in a flexible manner. In particular, the fixing parts 10 and 11 each consist of a lip with a hook-shaped part 15 and of a guiding part 16 formed at the free end thereof. The fixing parts 12 and 13 exclusively consist of hook-shaped parts 17 with a rather rigid design.

The panels 2 are provided at their edges 6 and 7 with collars 19 and 20 which can co-operate with the hook-shaped parts 15 and 17 respectively. On the reveal side, in this case the bottom side 8, are formed protruding parts 21 and 22 on the panels 2 which, when mounted, reach past the fixing parts 10-11 and 12-13, as indicated by the distances D1 and D2 in figure 1.

Further, the holders 4 are provided with a stopping part 23, in this case a protruding lip which functions as a spacer, such that this holder 4 can be positioned against a part of a covering which has already been installed before being fixed to the lath 5 or such.

The holder 4 hereby preferably has a design, as represented, which is such that when several such holders 4 are mounted in line one after the other, the spacer of this holder 4 can each time be brought freely up against the edge 6 of the already mounted panel 2. To this end, on each holder 4, opposite to the stopping part 23, is provided a portion in the shape of a recess 24 which leaves the edge 6 of the panel 2 concerned free. Practically, this is realised in the example in that the stopping part 23 is situated between the fixing parts 12 and 13, and the

- 10 -

fixing parts 10 and 11 are situated at a distance from one another, in between which the recess 24 is formed.

When mounted, the panels 2 lying next to one another overlap, preferably over a short distance D3. This overlap is created as overlapping parts 25-26 are formed on the edges 6 and 7, whereby the part 26 takes place behind the part 25 in mounted position.

- 10 On the edge 6 there is a recess or free portion 27, as a result of which the panel 2 can be rotated freely along the overlapping part 26 of the panel 2 situated next to it, as represented in figure 3.
- 15 The assembly of the covering can be easily derived from the figures 1 to 3.

First, a number of holders 4 are fixed at certain distances from one another on a base, in this case a lath structure.

20 Then, a panel 2 as represented in figure 3 is put with the collar 20 in the hook-shaped parts 17, after which the panel 2 is simply pushed up on the other edge 6. Thus, the collar 19 snaps behind the hook-shaped part 15, as a result of which the panel 2 is fixed.

25 In order to mount the next row of panels 2, a new series of holders 4 is fixed to the laths 5, whereby these holders 4 are positioned against the collar 19 with their stopping part 23. Then, as described above, the following panel 2

30 can be snapped in the holders 4.

An important aspect of the preferred embodiment of the covering 1 according to the invention is that a row of panels 2 can always be freely removed from between the

- 11 -

other rows, as a panel 2 can be turned down again without any problem thanks to the free portion 27.

5 Figures 4 and 5 concern a variant in which the holder 4 is provided with fixing parts 12 and 13 which allow for a smooth lateral movement or bending thereof in a flexible manner, while a firm interlocking and bearing capacity is offered in a direction which is perpendicular to the surface of the covering 1. To this end, the fixing parts 10 12 and 13 consist of elastically bendable lips which are formed of a first part 28 which is bent backward, away from the plane of the body 9, and which is then connected to a second part 29 which is bent forward again, which finally forms a hook-shaped part 17.

15 According to the invention, the use of such fixing parts 12 and 13 is preferably combined with fixing parts 10 and 11 having a guiding part 16, such that the panel 2 can be simply snapped in by pushing it up. The guiding part 16, 20 which is bevelled, ensures that the panel 2 is hereby laterally moved until it is snapped in.

It should be noted that the fixing parts 10 and 11 in this case must not necessarily be elastically bendable and may 25 consist of rigid elements.

Finally, figure 6 represents how the stopping parts 23 of the holders 4 fit in the recesses 24 of each time the preceding holder 4.

30 Figure 7 represents a variant whereby the fixing parts 12 and 13 consist of rigid, hook-shaped parts 17, as in the embodiment of figure 1, whereas the fixing parts 10 and 11 are made analogous to the fixing parts 12 and 13 of figure 35 5.

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Figure 8 represents a variant of the holder 4, whereby the body 9 is provided with strengthening ribs 30 in the shape of bent flanges.

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Figures 9 and 10 represent a variant whereby the holder 4 is provided with clamping means 31 with which it can be fixed on an underlying structure, in particular snapped in it. In the given example, these clamping means 31 consist of elastically bendable elements 32 which can work in conjunction with recesses 33-34 in the laths 5.

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Figure 11 represents a variant whereby the panels 2 mesh directly by means of a tongue and groove joint, formed of a tongue 35 and a groove 36. This offers the advantage that the panels 2 cannot sag in relation to one another. The whole is made such that there is a lateral play S in the assembled condition, which makes it possible to laterally move a panel 2 against the spring force of the fixing parts 12 and 13, such that it can be turned down on the edge 6. When such a panel 2 is mounted again, one proceeds in the opposite sense. This makes it possible for the panel 2 to be removed in this case as well from an already installed covering, and to be put back in place again.

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Figure 12 represents a variant whereby the panels 2 mesh indirectly in and/or behind one another by means of inserted elements, in this case strips 37. These strips may for example be of another colour than the panels 2.

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Figures 13 to 15 represent a variant of an embodiment whereby the panels 2 also fit into one another by means of a tongue 35 and a groove 36, on the edges 7 and 6 respectively.

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- 13 -

A particular characteristic of this embodiment consists in that the coupling part on the edge 6, which in this case is formed by the groove 36, is situated outside the fixing parts 10 and 11 in the assembled condition. In this manner
5 is obtained that the fixing parts 10 and 11 cannot possibly be placed in front of the groove 36.

Another special characteristic of this embodiment is that on the edge 6, on the place P1 where a pressure force has
10 to be exerted during the assembly, the panel 2 is not weakened by the presence of the groove 36.

Another special characteristic consists in that also the coupling part on the other edge 7, in this case the tongue
15 35, is situated outside the fixing parts 12 and 13.

It should be noted that also in the embodiment of figures 13 to 15, there is a play S which makes it possible for a panel 2 to be still removed from an existing covering by
20 successively moving it laterally and by turning it down. Further, as represented in the figures, the tongue 35 and the groove 36, as well as the fixing parts 10-11, are preferably dimensioned such that a panel 2, after it has been put in the fixing parts 12 and 13 on the edge 7, can
25 simply be put in place by pushing it up on the edge 6. The panel 2 hereby slides with the collar 19 along the guiding part 16, as a result of which the panel 2, as represented in figure 14, is moved to the right against the elastic force of the fixing parts 12-13. In the case of an already
30 formed covering, the upper lip 38 consequently moves freely along the far end of the tongue 35. As soon as the collar 19 is situated in front of the hook-shaped part 15, the panel 2 is forced to the left again, as a result of which the panel 2 slides with the groove 36 over the tongue 35.

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As represented in figure 2, the panels 2 can possibly also be provided with a tongue 39 and a groove 40 respectively on their crosscut ends.

5 Although only separate holders 4 are represented in the figures, it is clear that, according to a variant, use can also be made of holders in the shape of a profile equipped with several pairs of fixing parts 10-11 and 12-13.

10 Nor is it inconceivable to realise the fixing parts 10 and 11 on the one hand, and the fixing parts 12 and 13 on the other hand as separate, whereby they should be positioned at a correct distance from one another.

15 Instead of the two fixing parts 10 and 11, also one fixing part can be used. The same applies to the fixing parts 12 and 13.

The above-mentioned holders 4, which will also be described
20 hereafter, can be made of metal or plastic or any other suitable material whatsoever.

An example of an embodiment which is particularly suitable to be made of plastic is represented in the figures 16 to
25 20. The general construction can be compared to that of the embodiment of figure 8, with as a sole, major difference that the represented holder 4 has only one pair of fixing parts 10-12, instead of the two pairs in figure 8. This makes the construction simpler and requires less
30 plastic.

The holder 4 of figures 16 to 20 is provided with means 41 which guarantee a good grip while said holder 4 is being mounted on a base, even when this holder 4, as represented,
35 is fixed to the base in only one point 42, by means of only

- 15 -

one nail 43 or such, which is applied through one central opening 14. In the given example, these means 41 consist of two points of support 44-45 which are situated on either side of the above-mentioned point 42 and which are made
5 such that the body 9 is slightly bent when being mounted, as represented in figure 20, so that the holder 4 is tightened against the base on both points of support 44-45. As said points of support 44-45 are situated at a distance from one another, and due to the fact that they are both
10 pressed onto the base, a rotation around the point 42 is excluded.

In the given example, the points of support 44-45 consist of triangular, crosswise directed ribs. However, it is
15 clear that points of support in other shapes are possible.

The holder 4 of figures 16 to 20 is also equipped with positioning means 46 which simplify a quick positioning in relation to the base, which consist of a supporting surface
20 47, with which the holder 4 can be laterally pressed against the above-mentioned lath 5 or such.

The supporting surface 47 is formed by the side of a rib 48 which is provided at right angles on the bottom side of the
25 body 9 and which, together with this bottom side, forms an L-shaped seating which allows for a smooth positioning. During the assembly, the holder 4 can then be pressed in the corner with one hand, which is formed of the preceding, already mounted panel 2 and the lath 5, with the stopping
30 part 23 against the edge of the preceding panel 2 and with the supporting surface 47 against the side of the lath 5. With the other hand, the nail 43 can be shot through the opening 14 by means of a pistol.

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The supporting surface 47 also prevents the holder 4 from rotating in case it should be fixed in a single point 42 as mentioned above.

- 5 The fixing in a single point 42 offers the advantage that the time required for the installation of a ceiling is restricted.

10 It should be noted that all structural characteristics of an embodiment in plastic can be also be integrated in a metal embodiment and vice versa. In particular, this implies that the single embodiment of figures 16 to 20 can also be realised in metal, and the double embodiment of figure 8 also in plastic. Such a double embodiment in
15 plastic is represented for clarity's sake as seen from above in figure 21.

In case the holders 4, as described above, are provided with parts 28 and 29, the part 29 is preferably made such
20 that, in a state of rest, it is pressed against the part 28 with a certain force F, as is indicated in figure 16 by way of example. As a consequence, the position of the lower end of the part 29, and thus of the hook-shaped part 17 is always correct, thus excluding that the distance between
25 the hook-shaped parts 16 and 17 might vary due to differences in the elasticity of the part 29.

Figures 22 and 23 show how the panels 2 and/or the fixing parts, in this case the fixing part 12, can be provided
30 with bevels and/or roundings, 49 and 50 respectively which simplify the turning in and out of a panel 2.

The fixing parts can be provided with hook-shaped parts 16 and 17 which are directed towards one another, as in the
35 above-described embodiments, as well as with hook-shaped

- 17 -

parts 16 and 17 which are directed away from one another. An example of this second possibility is represented as an illustration in figures 24 to 26. Figure 24 represents the assembled condition, whereas figures 25 and 26 show how a panel 2 can be removed from the covering. In order to mount the panel again, one must proceed in the opposite sense.

Figures 27 and 29 represent yet another variant of the embodiment of figure 18, in which the part 28 is provided with a stopping part 51 which is made in the shape of a local protrusion, so that a very precise end position is formed for the part 29.

Figures 30 and 31 represent a variant, which in a way is the mirrored image of the embodiment according to figure 15. The difference hereby resides in that the whole is made such that the panels 2, when being mounted, are provided with their groove 36 in the most flexible fixing part 12, whereas their tongue 35 is situated near the most rigid fixing part 10.

In relation to the embodiment from figures 13 to 15, the embodiment according to figures 30-31 offers the advantage that the panels 2 can be assembled in a smoother manner, with a smaller risk of wrong manipulations. When a panel 2 is applied according to figure 13, the collar 20 is less visible, and thus it may happen that, when a panel 2 is put with the tongue 35 in the groove 36 of an already mounted panel 2 at a relatively steep gradient, the collar 20 ends up under the hook-shaped part 17, which results in an incorrect assembly. In the embodiment according to figures 30 and 31, this is practically excluded. When a panel 2, as represented in figure 30, is fixed, with its groove 36 shifted over the tongue 35 of the already mounted profile,

one automatically obtains a positioning whereby the upper lip 38 ends up behind the hook-shaped part 17.

It should be noted that the embodiment of figures 30 and 31 has two aspects which promote the easy hooking of a panel 2, namely that, as mentioned above, the panels 2 are situated with the groove 36 near the most flexible fixing part 12 on the one hand, and that the coupling part of the already mounted panel 2, in this case the tongue 35 of the preceding panel 2, extends at least up to near the fixing part 12 in front of the new panel 2 to be mounted on the other hand, in particular is situated at least partly under this fixing part 12, better still extends past it up to a certain distance, as indicated by D4 in figure 30.

The two above-mentioned aspects do not necessarily need to be combined. Thus, the second aspect could for example also be integrated in the embodiment of figure 15 by making sure that the groove 36, in particular the upper lip 38 which limits the groove 36, extends to underneath the hook-shaped part 17 of the first fixing part of the next panel 2.

As can be seen in figures 30 and 31, a separate seating 52 is preferably formed in the upper lip 38 in front of the hook-shaped part 17, which preferably consists of a recess in the bottom side of the upper lip 38. Moreover, the upper lip 38 preferably extends farther than the lower lip.

The assembly and disassembly of the covering can be easily derived from figures 30 and 31. The assembly is carried out by applying a panel 2 as represented in figure 30 at an angle in the holder 4, whereby it is shifted with the groove 36 over the tongue 35 of the already installed preceding panel 2, and by subsequently rotating the new

panel 2 until it snaps in behind the fixing part 10. The disassembly is carried out as represented in figure 31. The panel 2 to be dismantled is first shifted aside as indicated by the arrow 53, so that the tongue 35 of this panel 2 is released from the groove 36 of the panel 2' lying next to it, after which the panel 2 to be removed is rotated out of the covering as indicated by the arrow 54. To mount it again, one proceeds in the opposite sense.

- 10 Figure 32 represents a lighter embodiment of the holder 4 of figure 28. The fixing part 12 hereby has a restricted width, in particular a width which practically coincides with the thickness of the rib 48. As will be further explained, the fixing part 12 must not always be able to
- 15 absorb a large vertical force, and it is sufficient if this part, together with the far end of the holder 4 concerned, is made relatively light, for example when the panels support each other mutually by means of a tongue and groove joint. The holder 4 must then only be rigid near the other
- 20 end, in this case near the fixing part 10. Also, the holder must then only be fixed to one far end, with for example only one nail.

- It is clear that, according to a variant, the holders 4 can
- 25 be made as a profile or longitudinal structure with several pairs of fixing parts, whereby each holder 4 can then work in conjunction with several successive panels. An example thereof is represented in figure 33, which represents a multiple holder 4 made in one piece which actually consists
- 30 of the coupling of three holders according to figure 28. According to a variant which is not represented, use can also be made of separate holders 4, for example as represented in figure 28, which are then fixed at even distances on an endless belt, for example a relatively
- 35 flexible band made of plastic, metal or any other material

- 20 -

whatsoever, onto which they are welded, glued, stapled or such. This is advantageous in that such a band with the holders 4 fixed on it can be rolled up and that, during the assembly of a covering, the required lengths can be cut
5 off. The band can be made of such a flexible plastic that it is sufficiently bendable to be rolled up, but still sufficiently rigid to be able to guarantee a fixed distance between the holders 4 fixed upon it when rolled off.

10 Nor is it excluded to make use of one common base, for example in the shape of a profile, onto which several pairs of fixing parts are attached, for example are snapped in. The above-mentioned profile can replace the lath 5.

15 In the latter case, the fixing parts may consist of separate parts which then need to be applied as separate to the common base, as well as of elements containing several fixing parts, for example pairs of fixing parts, and which can be applied as such to a common base. A pair of fixing
20 parts formed as a whole can hereby be made both of fixing parts which are designed to co-operate with the opposite coupling parts, in particular the edges 6-7 of a single panel, and of fixing parts which are designed to work in conjunction with a coupling part, for example the edge 6,
25 of a single panel 2 and with a coupling part, for example the edge 7, of a panel 2 mounted next to it respectively.

An example of the above-described latter possibility is described in figure 34. Hereby, two fixing parts 10 and 12
30 situated next to one another are connected in one piece to form a compact element which can be fixed on a profile 55 or another spacer lug by means of coupling means 56, which in this case consist of fitting parts in the shape of a seating 57 in the profile 55 on the one hand, which is
35 provided with slanting walls 58-59, and a dovetailed part

-21-

60 which fits in the seating 57 on the other hand. In order to prevent the whole from shifting out of the seating 57, a snap-in system can possibly be integrated in the seating 57.

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According to another variant, any fixing part can be part of a separate holder, whereby, in order to fix a panel on both edges, two holders must then be provided on the base.

- 10 According to yet another variant, instead of stopping parts 23 which are designed to work in conjunction with the edge of an already installed panel 2, the holders can be provided with stopping parts which can work in conjunction with a preceding holder, or even with coupling parts which
- 15 make it possible for successive holders to be coupled to one another, or at least to be positioned in relation to one another.

- The panels 2 can possibly also be provided at their crosscut ends with coupling parts which provide at least for a locking at right angles to the surface of the covering 1, for example, as mentioned above, by making use of a tongue 39 and a groove 40. According to a variant, not only an interlocking at right angles to the surface of
- 20 the covering 1 can be provided for, but also in a direction parallel to the surface of the covering 1, for example by making use of coupling parts which snap into one another. An example thereof is represented in figure 35, in which is represented a tongue and groove profile which can be put
- 30 together by means of rotating as well as by means of shifting and which is analogous to the one represented in figures 22 to 25 of European patent No. 0.843.763, with this sole difference that, for the application of a ceiling covering, it is carried out upside down. Naturally, other
- 35 connecting systems are not excluded.

Figure 36 represents an accessory 61 with which the crosscut ends of two panels 2 situated in line can be centred. This accessory 61 consists of a body 62 which can surround the back side, the top side of the panels 2 on the crosscut far ends respectively, and of bent edges 63 and 64 formed on said body 62 which can work in conjunction with the edges of the respective panels 2.

- 10 Such an accessory 61 can in principle be provided on each transition between two panels 2, so as to exclude possible mutual shifts between the crosscut far ends, but it is particularly useful in the case of very short panels 2, which are fixed in a holder 4 in only one place. This is
- 15 illustrated in figure 37, in which is represented the back side of a covering 1, for example a ceiling covering, with panels 2 which are fixed by means of schematically represented holders 4. As the holders 4 are normally situated at regular distances from one another in rows, it
- 20 is clear that a possible short panel 2A is only held in a holder 4A in a single place, and that this panel 2A could in principle make a slight lateral movement at the far end 65. However, by providing an accessory 61 on the far end 65, in particular by sliding it over the crosscut ends of
- 25 the adjacent panels 2 and 2A, such a lateral movement is excluded.

Although the invention is in the first place meant for a ceiling or wall covering, it is clear that it is not

30 limited to it. It is for example also possible to apply the covering 1 according to the invention as a floor covering, whereby the whole is then applied upside down. In this case, the above-mentioned holders 4 can be mounted on underlying laths or beams, instead of laths 5 which are

35 fixed against a supporting structure of a wall or ceiling.

One can get a good idea of this by for example turning the figures 1, 2, 4, 7, 11, 12, 13-15, 24-26 and 30-31 over 180°.

- 5 According to a variant, the holders 4 can also be simply placed on the subfloor, whereby measures must be taken, however, to make sure that a mutual connection is maintained. According to a first possibility, the panels 2, which in this case consist of floor panels, can rest on
10 the holders 4. According to a second possibility, the holders 4 can also be made so thin that they have no effect whatsoever on the actual support of the panels 2, but are only designed to lock the panels 2, i.e. the floor panels, in relation to one another, both horizontally and
15 vertically. In the latter case, the covering is particularly appropriate for the application of floating floors, for example laminate floors, on a flexible and insulating underlayer. The holders 4 are hereby pressed locally in the underlayer, whereas the panels 2 mainly rest
20 on the underlayer over the entire surface.

- An example of this latter possibility is represented in figures 38 and 39, whereby strip-shaped holders 4 are laid on an underlayer 66, and whereby the panels 2 are
25 systematically snapped-in on it. The holders 4 hereby have several fixing parts 10-12 which are made analogous to the above-described fixing parts, whereas the panels 2 have profiles 6 and 7 on their edges which are also analogous to the profiles of the above-described panels 2. It is clear
30 that thus is obtained a floor covering which makes it possible to remove a panel from any place whatsoever and to put it back and/or to replace it. It should be noted that the space between the panels 2, which is required to be able to laterally move the panels 2 against the force of
35 the fixing means, can possibly be restricted to a minimum,

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so that also joints which are visible on the surface of the panel 2 are minimal. Possibly, the fixing parts which co-operate with the edge 6 as well as with the edge 7 can be made such that they can be laterally moved in a flexible manner, such that when a panel is removed, several panels lying next to one another can be laterally pushed aside. This makes it possible for the panels 2 to mesh relatively far, for example with their tongue 35 and groove 36, or with other overlapping parts, whereas the mutual clearance between two successive panels 2 can be kept relatively small. When a panel 2 is disassembled, this panel 2 can then be shifted together with several adjacent panels, so that the clearances of the different panels cumulate, and a sufficiently large shift can be realised on the place of the panel 2 to be removed to allow for a disconnection.

Figure 40 represents a variant which makes it clear that the fixing parts 10 and 12 do not necessarily both have to be equipped with a hook-shaped part. In this example, the panel 2 is mainly kept up, on the left side of the figure, by the hook-shaped part 15 which in this case is made relatively rigid on the one hand, and, on the right side of the figure, by means of the tongue and groove joint. The fixing part 12 exerts a pressure force almost exclusively in the horizontal direction and offers practically no vertical resistance. The latter is mainly obtained thanks to the co-operation with the next panel 2.

Figure 40 further makes it clear that the fixing parts of the holder 4, in this case the fixing parts 10 and 12, do not necessarily have to be situated near the edges 6-7 of the panel 2. The fixing part 12 is hereby situated in the middle of the panel 2 and works in conjunction with a part 67 formed to this end on the panel 2.

Figure 41 shows another variant whereby both fixing parts 10 and 12 are situated in the same half of the panel 2.

- 5 Naturally, according to a variant which is not represented, both fixing parts 10 and/or 11 on the one hand, and 12 and/or 13 on the other hand, can be situated at a distance from the actual edges 6-7.

- 10 It should be noted that in the embodiment of figures 40 and 41, the part 12 preferably offers a slight resistance in the vertical direction, such that this panel 2 remains suspended as such, also as long as there is no meshing with another panel 2 situated next to it.

- 15 Figures 42 to 44 represent three variants whereby the above-mentioned tongue and groove joint is formed by means of an inserted element, in this case a strip 37, whereby there is enough play to disassemble the panels 2 separately, without having to remove the adjacent panels.

- 20 The strips 37 are hereby preferably fixed tightly in the seatings 68 provided to this end, either during the manufacturing of the panels 2, or during the assembly of the covering. This offers the advantage that the strips 37
25 always remain in place in the cross direction, so that the whole can always be disassembled.

- 30 In the embodiments of figures 42 and 43, such a tight connection can be realised by clamping and/or by gluing the strips 37 in the seatings 68. According to the embodiment of figure 44, use is made of a mechanical interlocking 69, which in this example consists of a protrusion 70 on the panel 2 which meshes in a recess 71 in the strip 37. Naturally, such a mechanical interlocking 69 can also be
35 realised in other ways. Such a mechanical interlocking 69

offers the advantage that the strips 37 can be shifted in the longitudinal direction and thus can be shifted nicely against one another.

- 5 It is clear that the strips 37 do not necessarily have to have the same length as the panels 2.

In order to make sure that the panels 2 are held even better in the holders 4, inclined contact surfaces, if
10 there are any, are preferably made self-locking. This applies among others to the inclined contact surface, in particular the top surface, of the above-mentioned hook-shaped parts 16 and the contact surface of the panel 2 working in conjunction with it.

15 It is clear that the panels 2 can be made of any material whatsoever, and thus for example of extruded plastic or of metal. The panels 2 can be massive as well as hollow, or they may be formed of a bent, thin-walled plate.

20 It should be noted that the different characteristics, in particular, the different possibilities for co-operation between a fixing part 10-11 or 12-13 and a panel 2 of the various above-described embodiments, can be mutually
25 combined.

It is clear that the invention is also related to the elements of which said covering 1 is composed, in other words that it is also related to the holders 4 on the one
30 hand and to the profiled panels 2 on the other hand.

Finally, the invention also concerns a method for installing, disassembling the above-mentioned coverings respectively, characterised in that use is made of panels
35 which are provided with a tongue 35 and a groove 36

respectively on at least two opposite edges which can work in conjunction when assembled, whereby the method mainly consists in that holders 4 are first mounted with fixing parts which can work in conjunction with the above-mentioned edges, in particular holders 4 as described above, and in that the panels 2 are then provided in the holders 4 by first hooking them with one edge and by then rotating them into the plane of the covering to be realised, whereby not only the panels 2 are fixed between the fixing parts, but also the above-mentioned tongue 35 and groove 36 are coupled.

Further, this method is preferably characterised in that one or several of the steps are carried out as described above for handling the covering, and as represented in a number of the drawings.

According to the most preferred embodiment, the proceedings are as represented in figures 30 and 31, whereby the panels 2 slide with their edge provided with the groove 36 over the tongue 35 of the preceding panel 2, whereas the accompanying interlocking part is laterally bent, such that it hooks in the opposite interlocking part.

The disassembly is carried out in the opposite sense.

It is clear that the method according to the invention concerns both the assembly and disassembly of the covering, systematically as of one edge, as well as the assembly and disassembly in the covering of only one or possibly several panels 2 which are situated in the middle of an already existing covering 1.

The present invention is by no means limited to the above-described embodiments represented in the accompanying

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drawings; on the contrary, such a covering and the components thereof can be made in different shapes and dimensions while still remaining within the scope of the invention.

Claims.

- 5
1. Covering, in particular a floor, ceiling or wall covering, characterised in that it at least consists of a number of successive panels (2) on the one hand, and of fixing means (3) therefor on the other hand, which
- 10 fixing means comprise holders (4) which, by means of fixing parts (10-11-12-13), retain the panels (2) in a disconnectable manner over a part of the thickness of the panels (2).
- 15 2. Covering according to claim 1, characterised in that the panels (2) are mounted in rows, and in that these panels (2), after they have been mounted, can be removed, at least irrespective of the panels (2) which are situated in the adjacent rows on either side.
- 20 3. Covering according to any of the preceding claims, characterised in that the holders (4) are each provided with at least two fixing parts (10-11-12-13) made in one piece with them, which can co-operate with two
- 25 edges or portions of one and the same panel (2) respectively, in particular with the opposite edges (6-7) thereof, or with portions situated in the vicinity thereof.
- 30 4. Covering according to any of the preceding claims, characterised in that the holders (4) consist of separate elements which can be fixed on a base, whereby each holder (4) can mainly co-operate with one panel (2).
- 35

- 5 5. Covering according to claim 1, 2 or 3, characterised in that the holders (4) consist of elements which can be fixed on a base, whereby each holder (4) contains fixing means (3) which can co-operate with several panels (2) situated next to one another.
- 10 6. Covering according to claim 1 or 2, characterised in that the holders (4) are each provided with two fixing parts (12-10) which can co-operate with the edges or with portions situated near the edges respectively, of two adjacent panels (2).
- 15 7. Covering according to any of the preceding claims, characterised in that the above-mentioned holders (4) co-operate with a spacer, in particular a profile (55) upon or onto which they are mounted.
- 20 8. Covering according to any of claims 1 to 6, characterised in that each holder (4) concerned is provided with a stopping part (23) with which said holder (4) can be positioned against a part of the covering (1) which has already been installed, either against a holder (4) thereof, or against a panel (2) thereof.
- 25 9. Covering according to claim 8, characterised in that the stopping part (23) is formed of a protruding lip which functions as a spacer.
- 30 10. Covering according to claim 8 or 9, characterised in that the holder (4) has a design, on the side where the stopping part (23) is situated on the one hand, and on the opposite side thereof on the other hand, such that when several of said holders (4) are mounted one after the other, the stopping part (23) of the one holder (4)
- 35

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can be freely brought up against the edge (6) of the panel (2) which is being held by the other holder (4).

11. Covering according to claim 10, characterised in that
5 every holder (4) concerned is provided with at least one stopping part (23) on one edge, and is provided, opposite every stopping part (23), with a portion which leaves the edge (6) of a clamped-in panel (2) free, in particular in the shape of a recess (24).
12. Covering according to any of the preceding claims,
10 characterised in that the holders (4) are provided with clamping means (31) with which they can be snapped-in on an underlying structure.
13. Covering according to any of the preceding claims,
15 characterised in that the holder (4) is provided with fixing parts (10-11-12-13) which co-operate with the panels (2) and in that, at least on one side, every
20 fixing part (10-11 or 12-13) has features which allow for a smooth, lateral, flexible bending, whereas in a direction perpendicular to the surface of the covering (1) is offered a firm interlocking.
14. Covering according to claim 13, characterised in that
25 the above-mentioned provisions are formed of fixing parts (10-11 or 12-13) which consist of elastically bendable lips which are bent backward out of the plane of the holder (4), and then forward again.
15. Covering according to claim 14, characterised in that
30 the holders (4) are equipped with a combination of one or several fixing parts (12-13) on the one hand which are formed of elastically bendable lips which are bent
35 backward out of the plane of the holder (4) and then

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- forward again to further form a hook-shaped part (17), and of one or more fixing parts (10-11) on the other hand which are equipped with a rather rigid hook-shaped part (15), whereby at least one of the fixing parts (10-11 or 12-13) also has an inclined guiding part (16).
16. Covering according to claim 14 or 15, characterised in that the elastically bendable lips which are bent backward out of the plane of the holder (4) or such, and then forward again, to this end consist of two parts (28-29) respectively, and in that the second part (29) is made such that, in a state of rest, i.e. when no panel (2) has been provided in it yet, is pressed against the other part (28-51) with a certain force (F), such that the position of the lower end of the second part (29), and thus of the hook-shaped part (17) provided there, is always determined.
17. Covering according to any of the preceding claims, characterised in that the panels (2) overlap on the edges (6-7).
18. Covering according to claim 17, characterised in that the panels (2) are provided with overlapping parts (25-26) on the opposite edges (6-7), whereby, when mounted, a first part (26) of one panel (2) takes place behind a second part (25) of an adjacent panel (2), and whereby a recess or free portion (27) is provided on the second part (25), such that the accompanying panel (2) can always be freely rotated outward along the first part (26).
19. Covering according to claim 17, characterised in that the panels (2), or possibly auxiliary elements working

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in conjunction with them, such as strips (37) provided in between them, mesh as such, but nevertheless can still be laterally shifted when mounted, against the spring force of one or several fixing parts (10-11-12-13) provided on the holder (4), whereby the meshing is such that a single panel (2) can be removed from between the adjacent panels (2) by shifting it as mentioned above and by subsequently rotating it.

20. Covering according to claim 19, characterised in that every fixing part (10-11) concerned is provided with a guiding part (16) which makes sure that the panels (2), when being pressed in, are shifted laterally to be subsequently shifted back when mounted, whereby said guiding part (16) ensures that the meshing parts concerned first pass one another to subsequently mesh one after the other as a result of the shifting back.
21. Covering according to any of the preceding claims, characterised in that the holders (4) are equipped with means (41) which ensure a tight grip while said holder (4) is being applied on a base.
22. Covering according to claim 21, characterised in that the above-mentioned means (41) consist of points of support (44-45) which are situated on either side of a fixing point (42) and which are made such that the holder (4), in particular its body (9), is slightly bent when being mounted, so that the holder (4) is tightened against the base on said points of support (44-45).
23. Covering according to any of the preceding claims, characterised in that the holders (4) are each equipped

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with only one fixing point (42), in particular one opening (14) to apply a nail (43), a screw or such.

24. Covering according to any of the preceding claims,
5 characterised in that the holders (4) are equipped with positioning means (46) which simplify a positioning in relation to the base.
25. Covering according to claim 24, characterised in that
10 the positioning means (46) consist of a supporting surface (47), with which the holder (4) can be laterally pressed against a lath (5) or such of the base, which supporting surface (47) preferably forms an L-shaped seating together with the bottom side of the
15 holder (4).
26. Covering according to any of the preceding claims, characterised in that the panels (2) and/or the fixing parts are provided with bevelled and/or rounded-off
20 edges (49-50) which simplify the turning in and out of such a panel (2).
27. Covering according to any of the preceding claims, characterised in that the holders (4) comprise at least
25 two pairs of fixing parts (10-11-12-13) per panel (2) to be held, whereby these pairs are situated on either side of a stopping part (23) situated in the middle.
28. Covering according to any of claims 1 to 26,
30 characterised in that every holder (4) concerned comprises only one pair of fixing parts per panel (2) to be held.
29. Covering according to any of the preceding claims,
35 characterised in that the panels (2) mesh on their

- 35 -

edges (6-7) by means of a tongue and groove joint, either directly or by means of an inserted element such as a strip (37).

- 5 30. Covering according to claim 29, characterised in that the fixing means (3), as well as the above-mentioned tongue and groove joint, enable the panels (2) to be rotated along the side of the tongue (35) during the assembly and disassembly.
- 10 31. Covering according to claim 30, characterised in that it is equipped with provisions as defined in the preceding claims 13 or 14, and in that the above-mentioned provisions are situated along the side of the
- 15 tongue (35).
32. Covering according to claim 29, characterised in that the fixing means (3), as well as the above-mentioned tongue and groove joint, enable the panels (2) to be
- 20 rotated along the side of the groove (36) during the assembly and disassembly.
33. Covering according to claim 32, characterised in that it is equipped with provisions as defined in the
- 25 preceding claims 13 or 14, and in that the above-mentioned provisions are situated along the side of the groove (36).
34. Covering according to any of the preceding claims, characterised in that the panels (2) co-operate
- 30 indirectly on their edges (6-7) by means of inserted elements, such as strips (37) or such.
- 35 35. Covering according to claim 34, characterised in that the above-mentioned elements, in particular the above-

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mentioned strips (37) are connected to one panel (2), such that they always occupy a specific lateral position.

- 5 36. Covering according to any of the preceding claims, characterised in that the panels (2) are provided with coupling parts, in particular in the shape of a tongue (35) and a groove (36), and in that at least one of these coupling parts is situated outside the
10 accompanying fixing parts (10-11, 12-13) when mounted.
37. Covering according to any of the preceding claims, characterised in that the panels (2) are provided with parts fitting one after the other, in particular
15 coupling parts, preferably in the shape of a tongue (35) and a groove (36), and in that the part which is situated on one longitudinal edge of these panels (2), extends up to the vicinity of the fixing part (12) of a following panel (2) to be mounted.
- 20 38. Covering according to claim 37, characterised in that the above-mentioned part extends to underneath the above-mentioned fixing part (12) and/or up to a distance (D4) past this fixing part (12).
- 25 39. Covering according to any of the preceding claims, characterised in that the panels (2) consist of laths.
40. Covering according to any of the preceding claims, characterised in that the panels (2) are provided with
30 connecting means on their crosscut sides, such as for example a tongue (39) and a groove (40) respectively.
41. Covering according to claim 40, characterised in that
35 the connecting means provide for an interlocking, both

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in a direction which is at right angles to the surface of the covering (1) and in a direction which is parallel to the surface of the covering (1).

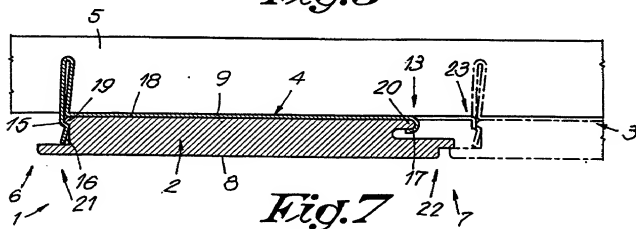
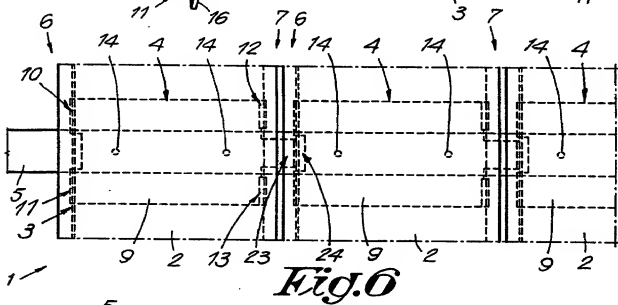
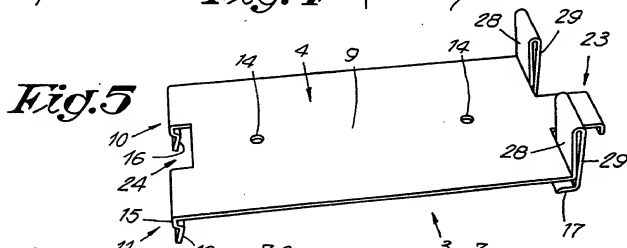
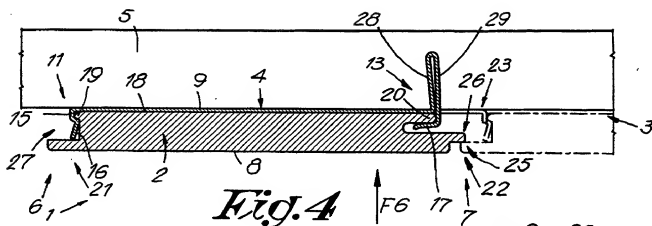
- 5 42. Covering according to any of the preceding claims, characterised in that the panels (2) have a massive core.
- 10 43. Covering according to claim 42, characterised in that the panels (2) consist of wood or a product on the basis of wood, in particular MDF, HDF or such.
- 15 44. Covering according to any of the preceding claims, characterised in that the holders (4) are provided with fixing parts (10-11 or 12-13) on one side which are formed of a rigid, hook-shaped part (15 or 17).
- 20 45. Covering according to any of the preceding claims, characterised in that two or more panels (2) are connected at their crosscut ends by means of an accessory (61), consisting of a body (62) and bent edges (63-64) formed on said body (62) which co-operate with the edges of the panels (2).
- 25 46. Covering according to any of the preceding claims, characterised in that it is realised as a floor covering, whereby the holders (4) consist of strips, whereby the fixing means (3) are formed of fixing parts (10-12) protruding from the surface of these strips.
- 30 47. Holder for realising a covering according to any of the preceding claims, characterised in that the holder (4) has one or several of the characteristics as described in any of claims 1 to 46.
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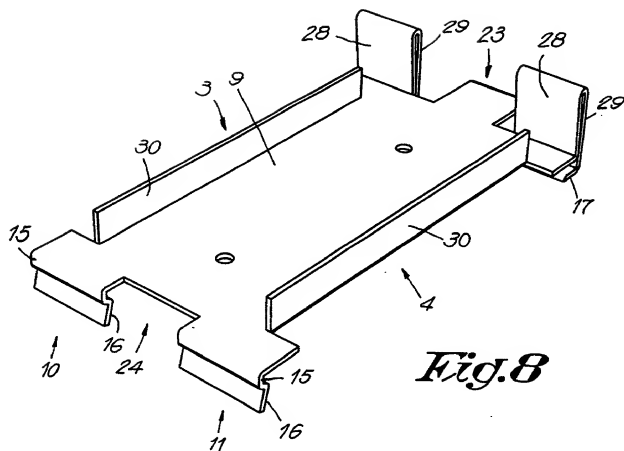
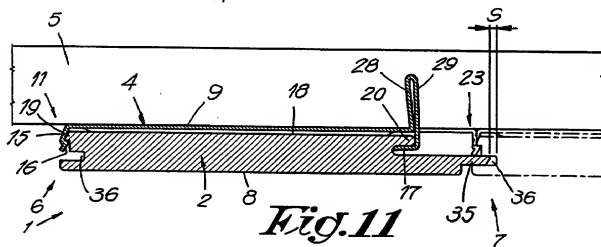
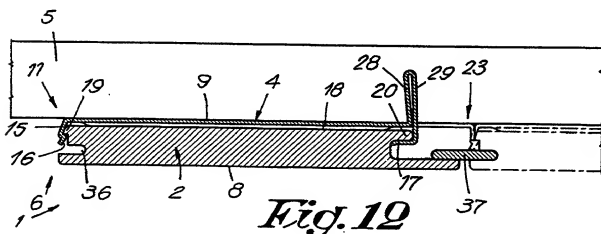
48. Panel for realising a covering, in particular a covering (1) for ceilings and/or walls, characterised in that it is provided with a profiling on its edges (6-7) or in the direct vicinity thereof, or in another place, so that it can co-operate with a holder (4) as described in any of claims 1 to 46.
49. Method for installing a covering according to any of claims 1 to 46, characterised in that use is made of panels (2) which are provided with a tongue (35) and a groove (36) respectively on at least two opposite edges (5-6) which can work in conjunction when assembled, whereby the method mainly consists in that holders (4) are first mounted with fixing parts (10-11-12-13) which can work in conjunction with the above-mentioned panels (2), in particular holders (4) as described in any of claims 1 to 46, and in that the panels (2) are then provided in the holders (4) by first hooking them in with one edge and by then rotating them into the plane of the covering (1) to be realised, whereby not only the panels (2) are fixed between the fixing parts of the above-mentioned holders (4), but also the above-mentioned tongue (35) and groove (36) are coupled.
50. Method according to claim 49, characterised in that the panels (2) are shifted with their edge which is provided with the groove (36) over the tongue (35) of the preceding panel (2), or vice versa, whereas the accompanying interlocking part of the holder (4) is laterally bent, such that a hooking-in is realised on the opposite interlocking part.
51. Method for disassembling a covering according to any of claims 1 to 46, characterised in that one proceeds in the opposite sense of claim 49 or 50.



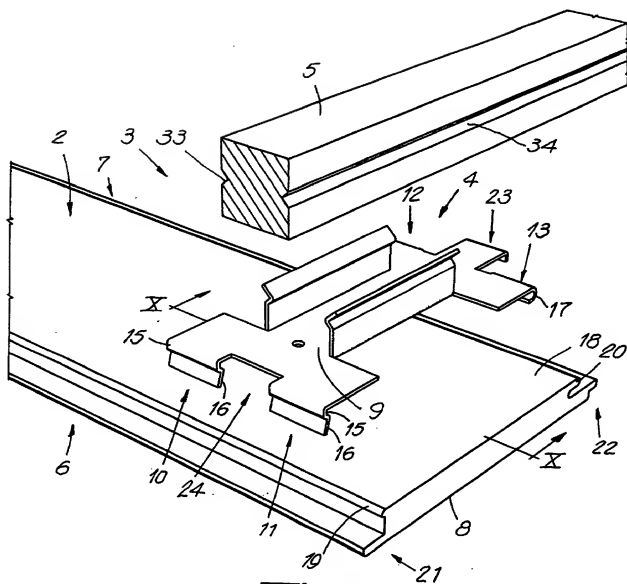
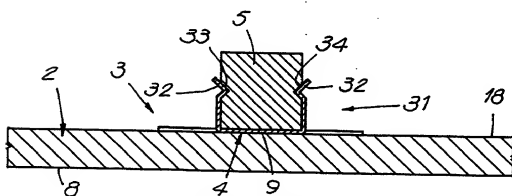
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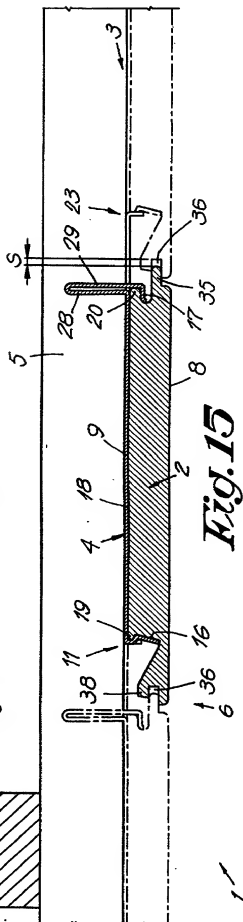
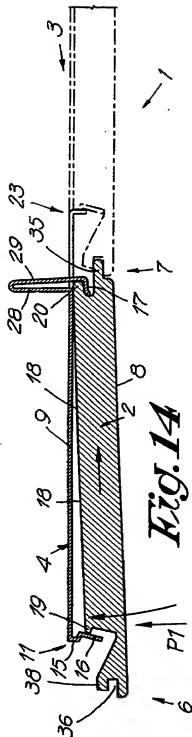
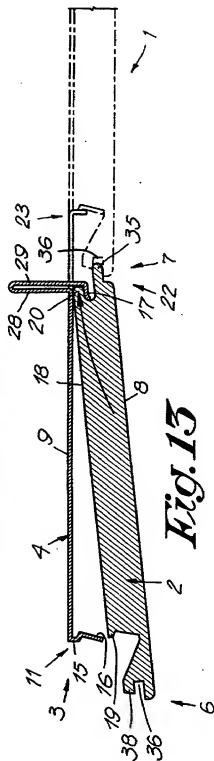


*Fig. 8**Fig. 11**Fig. 12*

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*Fig. 9**Fig. 10*

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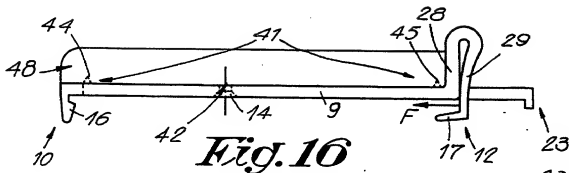


Fig. 16

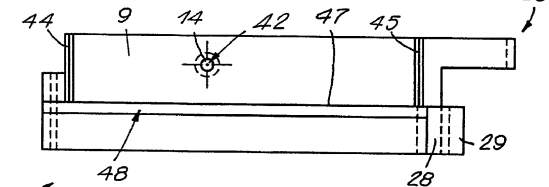


Fig. 17

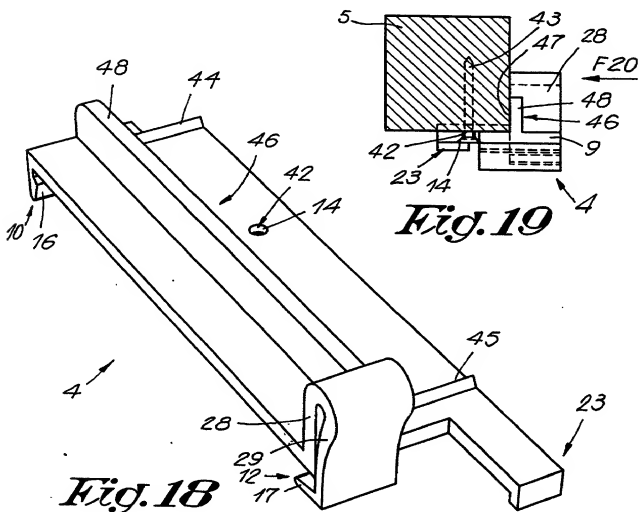
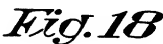
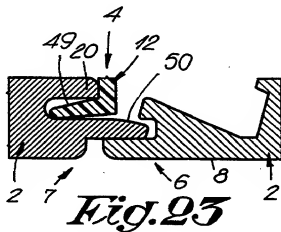
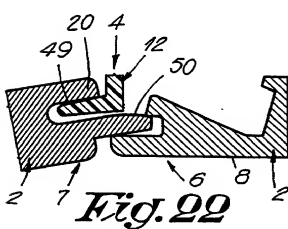
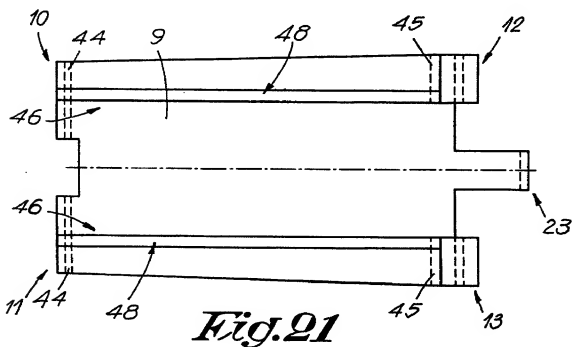
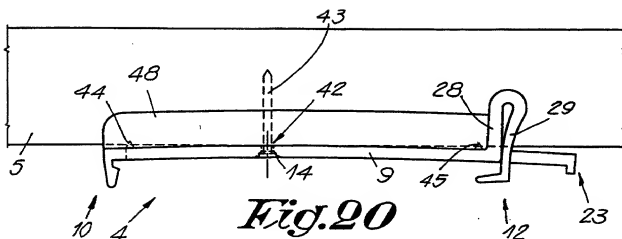


Fig. 19



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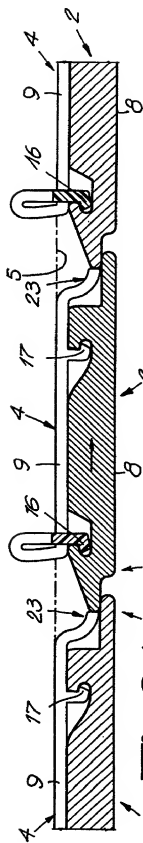


Fig. 24

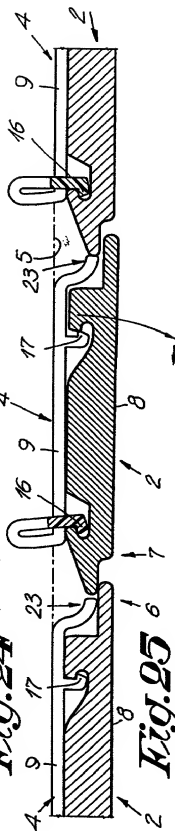


Fig. 25

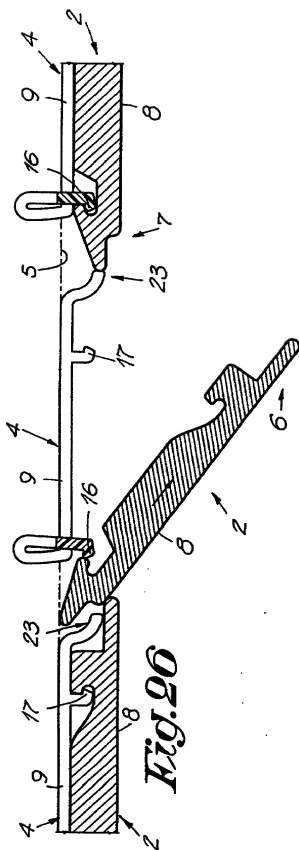
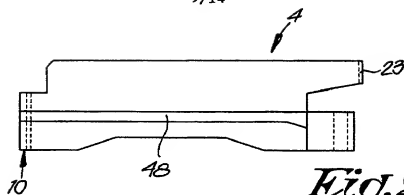
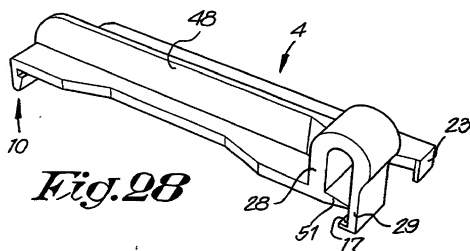
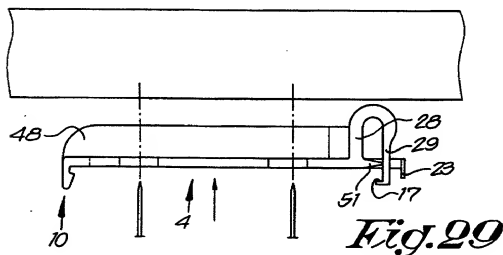
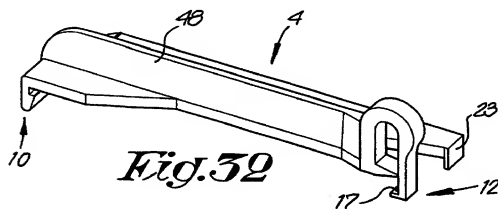


Fig. 26

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**Fig. 27****Fig. 28****Fig. 29****Fig. 32**

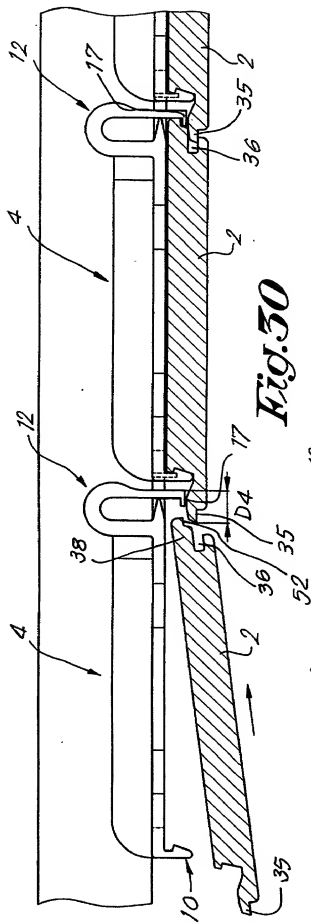


Fig. 30

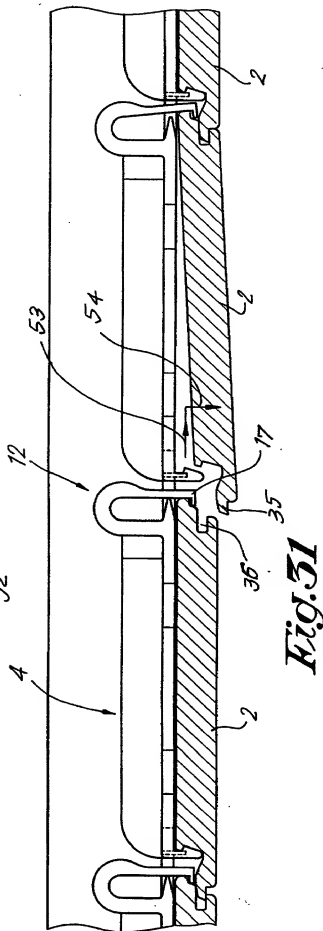
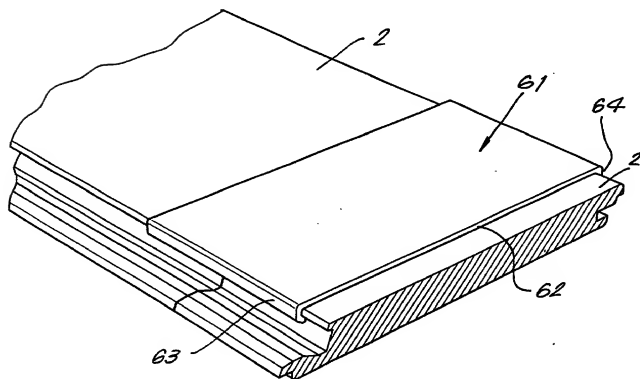
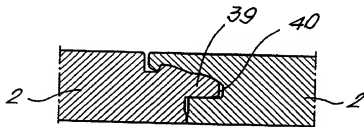
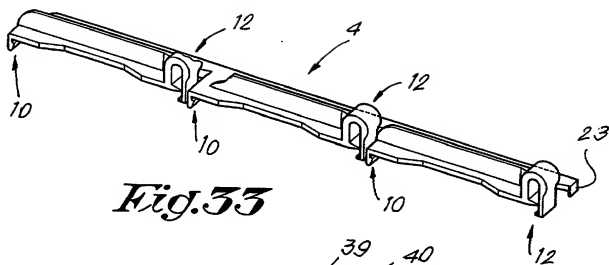
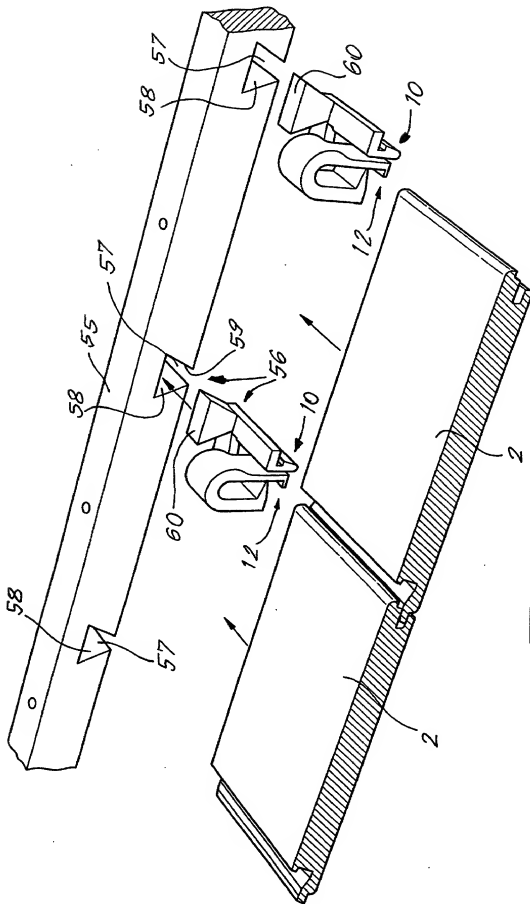
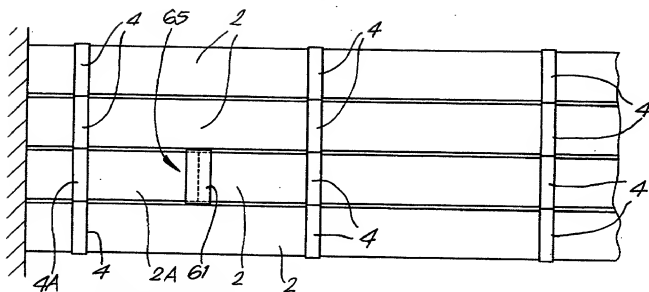
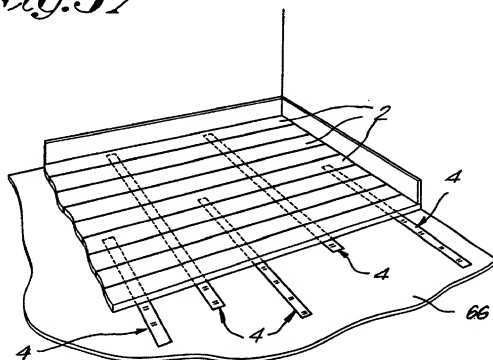
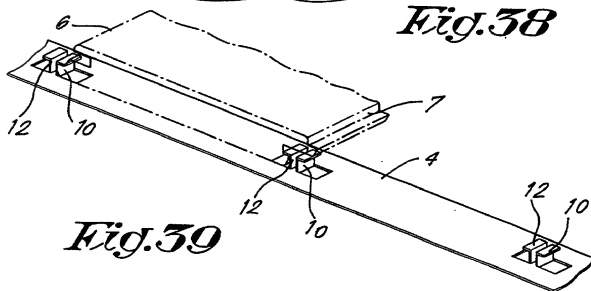


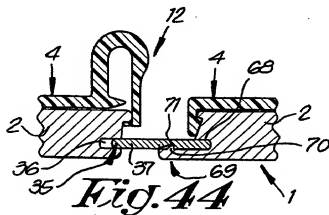
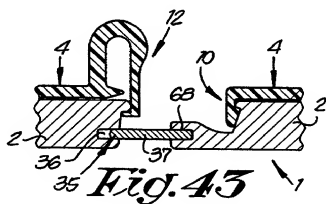
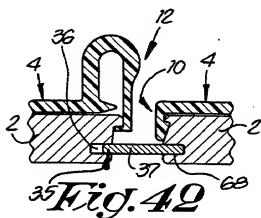
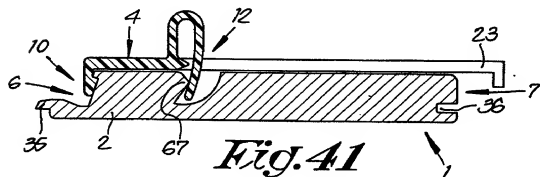
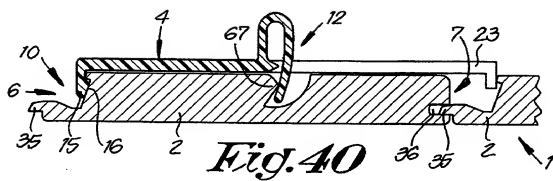
Fig. 31



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*Fig.37**Fig.38**Fig.39*



DECLARATION FOR PATENT APPLICATION AND APPOINTMENT OF ATTORNEY

As a below named inventor, I hereby declare that my residence, post office address and citizenship are as stated below next to my name; I believe that I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention (Design, if applicable) entitled: **COVERING, COVERING ELEMENTS AND INSTALLING AND DISASSEMBLING METHOD**
the specification of which (check one):

☐ is attached hereto, or ☒ was filed on: **22 November 2000** as U.S. Application Number or PCT International Application Number: **(PCT/BE00/00138) 09/869,299** and (if applicable) was amended on:

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment(s) referred to above. I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, §1.56. I hereby claim foreign priority benefits under Title 35, United States Code §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed.

PRIOR FOREIGN APPLICATION(S)			PRIORITY CLAIMED	
Number	Country	Day/Month/Year Filed	Yes	No
9900759	BE	23 November 1999	X	

☐ Additional Priority Application(s) Listed on Following Page(s)

I HEREBY CLAIM THE BENEFIT UNDER TITLE 35 U.S. CODE §119(E) OF ANY U.S. PROVISIONAL APPLICATIONS LISTED BELOW.	
Application Number	Day/Month/Year Filed

☐ Additional Provisional Application(s) Listed on Following Page(s)

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) or PCT international application(s) designating The United States of America listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in that/those prior application(s) in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, §1.56 which became available between the filing date of the prior application(s) and the national or PCT international filing date of this application:

Application Number	Filing Date	Status - Patented, Pending or Abandoned

☐ Additional US/PCT Priority Application(s) listed on Following Page(s)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

POWER OF ATTORNEY: I (We) hereby appoint as my (our) attorneys, with full powers of substitution and revocation, to prosecute this application and transact all business in the Patent and Trademark Office connected therewith: J. Ernest Kenney, Reg. No. 19,179; Eugene Mgr, Reg. No. 25,893; Richard E. Fichter, Reg. No. 26,382; Thomas J. Moore, Reg. No. 28,974; Joseph DeBenedictis, Reg. No. 28,502; Benjamin E. Urcia, Reg. No. 33,805; and

I (we) authorize my (our) attorneys to accept and follow instructions from **Bureau M.F.J. Bockstael** regarding any matter related to the preparation, examination, grant and maintenance of this application, any continuation, continuation-in-part or divisional based thereon, and any patent resulting therefrom, until I (we) or my (our) assigns withdraw this authorization in writing.

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DATE 16/08/2001		SIGNATURE cy Cappel

☐ See following page(s) for additional joint inventors.